

*6*



**UNITED STATES DEPARTMENT OF COMMERCE**  
**United States Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

*T.R*

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|-----------------|-------------|----------------------|---------------------|
|-----------------|-------------|----------------------|---------------------|

09/048,933    03/26/98    KLEIN

D    MEI-97-01386

022835    TM02/1019  
PARK, VAUGHAN & FLEMING LLP  
508 SECOND STREET  
SUITE 201  
DAVIS CA 95616

EXAMINER

LO, L

ART UNIT

PAPER NUMBER

2614

DATE MAILED:

10/19/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/048,933

Applicant(s)

KLEIN, DEAN A.

Examiner

Linus H Lo

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 8 August 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5-7, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Dea '208.

Considering claim 1(Amended), Dea discloses a remote video processing system including compression/decompression accelerator. Dea discloses the following claimed subject matter, note:

- a) the claimed method for compressing video data in a computer system is met by the description at column 4, lines 36-41 and lines 17-19, and FIG. 1, where of the described compression/decompression accelerator 120 performs the compression method;
- b) the claimed step of receiving a stream of data from a current video frame in the computer system is met by description at column 6, lines 42-44 and FIG. 2;
- c) the claimed step of computing a difference frame from the current video frame and a previous video frame as the current video frame streams into the computer system is met by the description of the subtraction function of frame difference block 220 (column 6, lines 36-44, and column 5, lines 42-47, and FIG. 2);

Art Unit: 2614

- d) the claimed step of storing difference frame in a memory in the computer system is met by the description of buffer 248 at column 9, line 60 - column 10, line 3, and FIG. 2; and
- e) the claimed limitation of “wherein computing the difference frame includes computing the difference frame in a core logic chip within the computer system” is met by the compress/decompression accelerator 120 that includes the function frame difference block 220 (column 6, lines 36-44, and column 5, lines 42-47, and FIG. 1, 2).

Considering claim 2, the claimed storing the current video frame in the memory in the computer system is met by the current frame memory 204 (column 6, lines 42-44, and FIG. 2).

Considering claim 3, the claimed wherein the current video frame is written over a previous video frame in the memory is met by the current frame memory 204 (column 6, lines 42-44, and FIG. 2.), whereas the current frame memory 204 receives video frame sequentially that the area stores the relatively previous video frame is subsequently replace by the newly received current video frame.

Considering claim 5, the claimed step of computing a difference between a block of data from the current video frame and a block of data from the previous video frame is met description at column 10, lines 53-56 and column 5, lines 42-47, and FIG. 3A, where the

Art Unit: 2614

excerpt from column 10 described the utilizing of the block of data from the current and previous video frame.

Considering claim 6, the claimed wherein storing the difference frame in memory includes storing the differences frame in the memory in the memory using block transfer is met by the is met the description at column 10, lines 53 - column 11, lines 7 and column 5, lines 42-47, and FIG. 3A, where the excerpt from column 10 and 11 described the utilizing of the block of data from the current and previous video frame and subsequently recognized that data stored in buffer is in the from of block.

Considering claim 7, the claimed using the difference frame to produce compressed video data is met by the description of FIG. 3A and column 10, line 53 - column 11, line 7, whereof FIG. 3A depicted the frame difference block 220 provides a difference frame and subsequently after the variable length encoding block, the compressed video bitstream 338 is output.

Considering claim 12, the claimed wherein computing the difference frame includes computing the difference frame in circuitry outside of a central processing unit in the computer system is met by the processor 112 and the compression/decompression accelerator 120 (FIG. 2).

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 9, 13-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dea '208 in view of Abramatic et al. '383.

Considering claim 4, Dea discloses the claimed invention except for the claimed step of computing the difference frame includes computing an exclusive-OR between the current video frame and the previous video frame.

Nonetheless, Dea teaches that a step of computing *the difference frame* between the current video frame and the previous video frame as discuss above in claim 1. Furthermore, Abramatic et al. teach that a form of compression consists in detecting variations (difference) between on image and the next as described at column 2, lines 53-56. Abramatic et al. discloses the claimed step of computing an exclusive-OR between the current video frame and the previous video frame as met by the description at column 6, lines 52-58, whereof the described previous image at the input 55 and the arrival of new points at the input 57 which are respectively considered as the previous and current video frame.

Since Abramatic et al. teach that XOR function for the difference calculation 56 which has the advantage of providing a less complicated means for the difference calculation techniques as elucidate at column 7, lines 32-35.

Therefore it would have been obvious to one have ordinary skilled in the art at the time the invention was made to recognize the advantage and the claimed the claimed step of computing the difference frame includes computing an exclusive-OR between the current video frame and the previous video frame as taught by Abramatic et al. in the system of Dea.

Considering claim 9, Dea discloses the claimed invention except for the claimed using the video data in compressed form in a video conferencing system.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to recognize the claimed using the video data in compressed form in a video conferencing system in the system of Dea, since examiner takes Official Notices of the commonly well known usage of the compressed video data form in a teleconference system, whereof the compressed video data form is recognized to provide the benefit of bandwidth conservation on a communication system.

Considering claim 13(Amended), Dea discloses a remote video processing system including compression/decompression accelerator. Dea discloses the following claimed subject matter, note:

- a) the claimed method for compressing video data in a computer system is met by the description at column 4, lines 36-41 and lines 17-19, and FIG. 1, where of the

described compression/decompression accelerator 120 performs the compression method;

- b) the claimed step of receiving a stream of data from a current video frame in the computer system is met by description at column 6, lines 42-44 and FIG. 2;
- c) the claimed step of computing a difference frame from the current video frame and a previous video frame as the current video frame streams into the computer system is met by the description of the subtraction function of frame difference block 220 (column 6, lines 36-44, and column 5, lines 42-47, and FIG. 2);
- d) the claimed step of storing difference frame in a memory in the computer system is met by the description of buffer 248 at column 9, line 60 - column 10, line 3, and FIG. 2;
- e) the claimed storing the current video frame in the memory in the computer system is met by the current frame memory 204 (column 6, lines 42-44, and FIG. 2);
- f) the claimed using the difference frame to produce compressed video data is met by the description of FIG. 3A and column 10, line 53 - column 11, line 7, whereof FIG. 3A depicted the frame difference block 220 provides a difference frame and subsequently after the variable length encoding block , the compressed video bitstream 338 is output; and
- g) the claimed limitation of “wherein computing the difference fame includes computing the difference frame in a core logic chip within the computer system” is met by the compress/decompression accelerator 120 of Dea that includes the

function frame difference block 220 ( column 6, lines 36-44, and column 5, lines 42-47, and FIG.1, 2).

However, Dea does not disclose the claimed step of computing the difference frame includes computing an exclusive-OR between the current video frame and the previous video frame.

Nonetheless, Dea teaches that a step of computing *the difference frame* between the current video frame and the previous video frame as discuss above in claim 1. Furthermore, Abramatic et al. teach that a form of compression consists in detecting variations (difference) between on image and the next as described at column 2, lines 53-56. Abramatic et al. discloses the claimed step of computing an exclusive-OR between the current video frame and the previous video frame as met by the description at column 6, lines 52-58, whereof the described previous image at the input 55 and the arrival of new points at the input 57 which are respectively considered as the previous and current video frame.

Since Abramatic et al. teach that XOR function for the difference calculation 56 which has the advantage of providing a less complicated means for the difference calculation techniques as elucidate at column 7, lines 32-35.

Therefore it would have been obvious to one have ordinary skilled in the art at the time the invention was made to recognize the advantage and the claimed step of computing the difference frame includes computing an exclusive-OR between the current video frame and the previous video frame as taught by Abramatic et al. in the system of Dea.

Considering claim 14, the claimed wherein the current video frame is written over a previous video frame in the memory is met by the current frame memory 204 of Dea (column 6, lines 42-44, and FIG. 2.), whereas the current frame memory 204 receives video frame sequentially that the area stores the relatively previous video frame is subsequently replace by the newly received current video frame.

Considering claim 15, the claimed step of computing a difference between a block of data from the current video frame and a block of data from the previous video frame is met description of Dea at column 10 , lines 53-56 and column 5, lines 42-47, and FIG. 3A, where the excerpt from column 10 described the utilizing of the block of data from the current and previous video frame.

Considering claim 16, the claimed wherein storing the difference frame in memory includes storing the differences frame in the memory in the memory using block transfer is met by the is met the description of Dea at column 10 , lines 53 - column 11, lines 7 and column 5, lines 42-47, and FIG. 3A, where the excerpt from column 10 and 11 described the utilizing of the block of data from the current and previous video frame and subsequently recognized that data stored in buffer is in the form of block.

Considering claim 17, Dea discloses the claimed invention except for the claimed using the video data in compressed form in a video conferencing system.

Art Unit: 2614

It would have been obvious to one having ordinary skill in the art at the time the invention was made to recognize the claimed using the video data in compressed form in a video teleconferencing system in the system of Dea, since examiner takes Official Notices of the commonly well known usage of the compressed video data form in a teleconference system, whereof the compressed video data form is recognized to provide the benefit of bandwidth conservation on a communication system.

Considering claim 19, the system of Dea and Abramatic et al. disclose the claimed invention except for the claimed storing instruction and data for the computer system in the memory.

Nevertheless, Dea teaches *a step of storing* data for the computer system in the memory as the description of DRAM at column 4, lines 52-63, and furthermore Dea teaches that the video processing system 100 (computer system) utilizes executable program instructions (column 4, lines 36-51). Since examiner takes Official Notice of the commonly known in the art that processing system (computer system) stores instruction for the computer system in the memory in order for the system to retrieve and executed the programmed instruction would be within the level of ordinary skill in the art. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to recognize the claimed step of storing instruction and data for the computer system in the memory in the system of Dea and Abramatic et al..

5. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dea '208 in view of Hardiman ' 223.

Considering claim 8, Dea disclose the claimed invention except for the claimed step of performing a color space conversion on the video data.

Hardiman discloses an invention relates to compression coding of a video program. Hardiman disclose the claimed performing a color space conversion on the video data is met by the subsampler and color space converter 80 ( column 3, lines 47-57, column 6, lines 55-64, and FIG. 2). Since it was well known in the art that the color space conversion on video would recognize the benefit of properly converting the video information from a computer processed information into a displayable signal for image displaying (column 3, lines 47-57).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to recognize the advantage of performing a color space conversion on the video data and further realize the claimed step of performing a color space conversion on the video data as taught by Hardiman in the system of Dea.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dea '208.

Considering claim 10, Dea discloses the claimed invention except for the claimed storing instruction and data for the computer system in the memory.

Nevertheless, Dea teaches *a step of storing* data for the computer system in the memory as the description of DRAM at column 4, lines 52-63, and furthermore Dea teaches that the video processing system 100 (computer system) utilizes executable program instructions (column 4, lines 36-51). Since examiner takes Official Notice of the commonly known in the

Art Unit: 2614

art that processing system (computer system) stores instruction for the computer system in the memory in order for the system to retrieve and executed the programmed instruction would be within the level of ordinary skill in the art . Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to recognize the claimed step of storing instruction and data for the computer system in the memory in the system of Dea.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dea ' 208 and Abramatic et al. '383 as applied to claim13 above, and further in view of Hardiman '223.

Considering claim 18, the system Dea and Abramatic et al. disclose the claimed invention except for the claimed step of performing a color space conversion on the video data.

Hardiman discloses an invention relates to compression coding of a video program. Hardiman disclose the claimed performing a color space conversion on the video data is met by the subsampler and color space converter 80 ( column 3, lines 47-57, column 6, lines 55-64, and FIG. 2). Since it was well known in the art that the color space conversion on video would recognize the benefit of properly converting the video information from a computer processed information into a displayable signal for image displaying (column 3, lines 47-57).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to recognize the advantage of performing a color space conversion on the video data and further realize the claimed step of performing a color space conversion on the video data as taught by Hardiman in the system of Dea and Abramatic et al..

*Response to Arguments*

8. Applicant's arguments filed on August 8, 2001 have been fully considered but they are not persuasive.

*Applicant Arguments*

- a) Applicant argues that Dea is directed to a compression/decompression accelerator coupled to a system bus. In contrast, the present invention discloses a graphics controller within a core logic unit. A core logic unit is circuitry within a computer system that interfaces a processor to a memory and a peripheral bus and performs other functions. Specifically, the core logic unit in the present invention includes the graphics controller and the circuitry of north bridge 118. ... There is no suggestion, either explicit or implicit, within Dea, or within Dea in combination with Abramatic, to include the graphics controller within the core logic unit.
- b) Applicant respectfully submits that independent claims 1-13 as presently amended are in condition for allowance, and that claims 2-10 and 12 which depend upon claim 1, and claims 14-19 which depend on claim 13 are for the same reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

*Examiner Response*

- a) In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the core logic unit in the present invention includes the graphics controller and the circuitry of north bridge) are not recited in the rejected claim(s). Although the claims are interpreted in light of the

Art Unit: 2614

specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore given the interpretation of the core logic unit as the circuitry within a computer system that interface a processor to a memory and a peripheral bus and performs other functions, the description from the reference of Dea describes the compress/decompression accelerator 120 that includes the function frame difference block 220 at column 6, lines 36-44, and column 5, lines 24-47, column 4, lines 36-39, and FIG. 1 and 2, which is considered as the argued limitation. It is noted that the excerpt from column 4, lines 36-39 and Fig. 2 which described the compress/decompression accelerator 120 as a hardware circuitry, while the passage from column 5, lines 24-47 and Fig. 2 which elucidates that compression/decompression accelerator (core logic unit) interfaces thru accelerator bus interface with the data bus(peripheral bus) for data communication. The description at column 14, lines 41-55 and column 4, lines 52-63 and Fig. 2 which discusses the upper one megabyte of the address space of the DRAM is reserved for communication between various devices which may be coupled to the address and data bus 116 and 118, whereas Fig. 1 depicted that both the processor 112 and compression/decompression accelerator 120 is coupled to such bus. Additionally column 7, lines 35-39 and column 10, lines 4-11 which describes the accelerator 120 performs the encoding mode and decoding mode function as well. Since the above description has clearly demonstrated the argued limitation of the core logic unit, and thus the Applicant's argument is deemed non-persuasive. Please see the above art rejection.

Art Unit: 2614

b) Since Applicant does not present any additional argument concerning the rejections for the dependent claims 2-10, 12 and 14-10 which merely for the same reason as for the argued independent claims 1 and 13. Thus no further response is deemed necessary in view of examiner's response as presented for claims 1 and 13 above.

*Conclusion*

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linus H. Lo whose telephone number is (703) 305-4039.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reinhard Eisenzopf, can be reached at (703) 305-4711.

Art Unit: 2614

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Technology Center 2600 Customer Service Office whose telephone  
number is (703) 306-0377.

lhl

*Lc*

October 10, 2001

*Rein J. Eisenzopf* 10-18-01  
REINHARD J. EISENZOPF  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600